

PANalytical X'Pert Pro diffractometer, X'Celerator detector, temperature-regulated chamber, voltage 45 kV, intensity 40 mA, mounting θ-θ, nickel (K β) filter, incident-beam and diffracted-beam Soller slit: 0.04 rad, fixed angle of divergence slits: $\frac{1}{8}$ °, mask: 10 mm, antiscatter slit: $\frac{1}{4}$ °, measurement mode: continuous from 3° to 30°, in increments of 0.017°, measurement time per step: 19.7 s, total time: 4 min 32 s, measurement speed: 0.108°/s, measurement temperature: ambient.

EXAMPLE 1

 γ -Crystalline Form of Ivabradine Hydrochloride

40 ml of 2-ethoxyethanol are preheated to 80° C., and then 8.4 g of ivabradine hydrochloride obtained according to the process described in the patent specification EP 0 534 859 are added in portions, with stirring, and the mixture is heated at 80° C. until dissolution is complete. After returning to ambient temperature, the solution is stored for 8 days, and then the crystals formed are collected by filtration and rinsed with cyclohexane.

The water content of the crystals obtained, determined by coulometry, is 3.5%, which corresponds to a monohydrate.

X-Ray Powder Diffraction Diagram:

The X-ray powder diffraction profile (diffraction angles) of the γ -form of ivabradine hydrochloride is given by the significant rays collated in the following table:

Ray no.	Angle 2 theta (degrees)	Height (counts)	Area (counts × degrees)	FWHM (degrees)	Interplanar distance (Å)
1	4.2	1456	144	0.1004	20.762
2	6.9	125	99	0.8029	12.880
3	8.4	182	18	0.1004	10.503
4	10.7	240	32	0.1338	8.249
5	11.3	74	15	0.2007	7.858
6	12.0	644	64	0.1004	7.392
7	12.5	1476	219	0.1506	7.060
8	13.4	2691	400	0.1506	6.612
9	14.5	541	80	0.1506	6.119
10	14.8	104	17	0.1673	5.981
11	15.9	815	67	0.0836	5.559
12	16.3	501	74	0.1506	5.419
13	17.0	1168	154	0.1338	5.210
14	17.9	430	43	0.1004	4.962
15	19.0	667	121	0.184	4.672
16	19.8	527	104	0.2007	4.483
17	20.2	726	144	0.2007	4.392
18	20.5	282	28	0.1004	4.323
19	21.1	2255	260	0.1171	4.208
20	21.4	694	68	0.1004	4.147
21	21.6	744	86	0.1171	4.111
22	22.3	175	35	0.2007	3.987
23	23.5	310	61	0.2007	3.784
24	24.2	1635	270	0.1673	3.683
25	24.5	1335	220	0.1673	3.625
26	24.9	523	95	0.184	3.568
27	25.5	657	130	0.2007	3.485
28	26.0	933	154	0.1673	3.431
29	26.4	1549	230	0.1506	3.380
30	26.8	419	83	0.2007	3.323
31	27.3	350	69	0.2007	3.267

-continued

Ray no.	Angle 2 theta (degrees)	Height (counts)	Area (counts × degrees)	FWHM (degrees)	Interplanar distance (Å)
32	28.0	1108	146	0.1338	3.186
33	29.1	144	19	0.1338	3.066

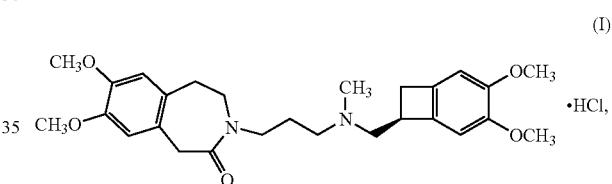
EXAMPLE 2

Pharmaceutical Composition

15 Formula for the preparation of 1000 tablets each containing 5 mg of ivabradine base:

20	Compound of Example 1	5.39 g
	Maize starch	20 g
	Anhydrous colloidal silica	0.2 g
	Mannitol	63.91 g
	PVP	10 g
	Magnesium stearate	0.5 g

25 The invention claimed is:
1. A γ -Crystalline form of ivabradine hydrochloride of formula (I):



30 exhibiting essentially the following powder X-ray diffraction data, measured using a PANalytical X'Pert Pro diffractometer together with an X'Celerator detector and expressed in terms of ray position (Bragg's angle 2 theta, expressed in degrees), ray height (expressed in counts), ray area (expressed in counts x degrees), ray width at half-height ("FWHM", expressed in degrees) and interplanar distance d (expressed in Å):

Ray no.	Angle 2 theta (degrees)	Height (counts)	Area (counts × degrees)	FWHM (degrees)	Interplanar distance (Å)
1	4.2	1456	144	0.1004	20.762
2	6.9	125	99	0.8029	12.880
3	8.4	182	18	0.1004	10.503
4	10.7	240	32	0.1338	8.249
5	11.3	74	15	0.2007	7.858
6	12.0	644	64	0.1004	7.392
7	12.5	1476	219	0.1506	7.060
8	13.4	2691	400	0.1506	6.612
9	14.5	541	80	0.1506	6.119
10	14.8	104	17	0.1673	5.981
11	15.9	815	67	0.0836	5.559
12	16.3	501	74	0.1506	5.419
13	17.0	1168	154	0.1338	5.210
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